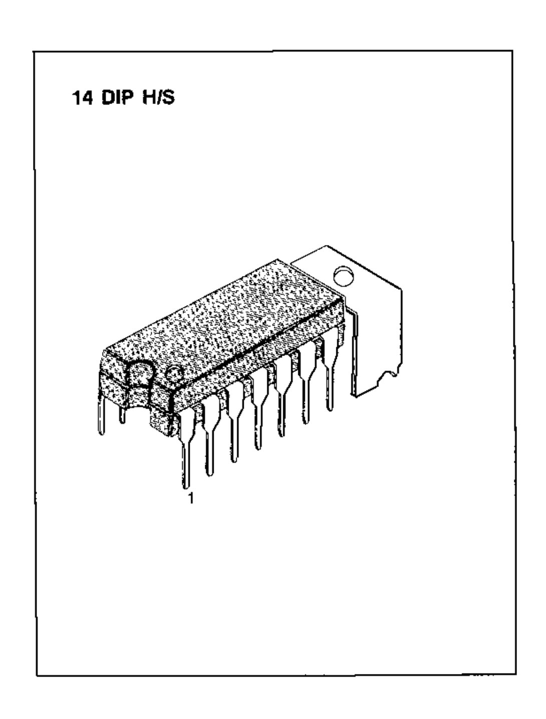
VIDEO IF PROCESSOR FOR B/W TVs

The KA2912 is a silicon monolithic integrated circuit designed for the VIF stage in B/W television receivers.
This IC has all functions, including a video IF amplifier, video low-level detector, RF AGC, IF AGC and noise canceller.
This IC is encapsulated a 14-pin dual in-line package with heat sink.



FEATURES

- **High input sensitivity: Typ 30 dBμ.**
- **It can be used both of keyed type AGC and peak type AGC.**
- **It can be operated with the power supply voltage above 7V.**
- **Since the video detector has a wide bandwidth, it's suitable for the sound carrier frequency of 4.5, 5.5, 6.0, 6.5 MHz.**
- **As input is differential mode, it can be used with an SAW filter.**
- **All functions of the VIF stage are provided by this single chip IC. This will realize reduction of assembly costs as well as reduction of the number of external components.**

ORDERING INFORMATION

Device	Package	Operating Temperature
KA2912	14 DIP H/S	−20 ~ +75°C

BLOCK DIAGRAM

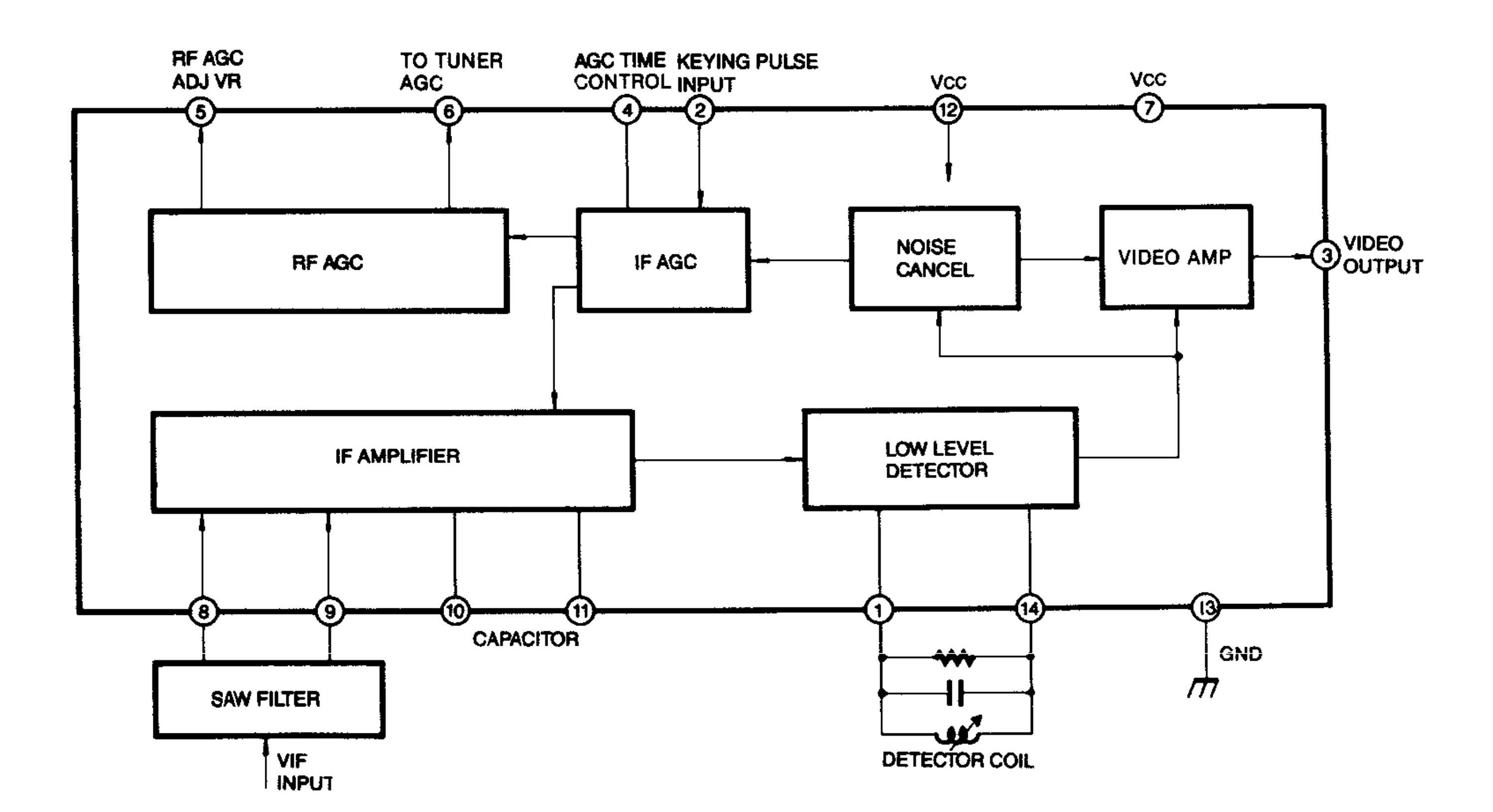


Fig. 1

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC} (Pin 7)	15	V
Input Singnal Voltage	V_8, V_9	3	V_{p-p}
Power Dissipation	P_D	875 (T_a=75°C) free air	mW
Operating Temperature	T_{OPR}	−20 ~ +70	°C
Storage Temperature	T_{STG}	−40 ~ +125	°C

ELECTRICAL CHARACTERISTICS

(T_a = 25°C, V_{CC} = 12V, f_p = 45.75MHz, f_m = 400Hz)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Supply Current	I_{CC}	I_7+I_{12}, R_A=150Ω	40	50	60	mA
Input Sensitivity	S_{VI}	MOD=80%, υ_O=1.4V_{P-P}	—	30	35	dBμ
Maximum Input Voltage	$V_{I\ (MAX)}$	MOD=80%,−1dB Point	100	—	—	dBμ
Video Output Voltage	V_O	MOD=80%, υ_i=3mVrms	1.0	1.4	1.7	V_{P-P}
Video Output DC Voltage	$V_{O\ (DC)}$	No Signal	3.3	3.8	4.3	V
Signal to Noise Ratio	S/N	MOD=80%-0% υ_i=3mVrms	40	50	—	dB
RF AGC Voltage (High)	V_{6H}	V_5=0V	8	9	11	V
RF AGC Voltage (Low)	V_{6L}	V_5=7V	—	0	0.5	V
Differential Gain	D.G.	Stair step F_M=3.58MHz	—	—	10	%
Differential Phase	D.P.	Stair step F_M=3.58MHz	—	—	10	deg
Video Detector Band Width	$G_{V\ (F)}$	−3dB Point	5.5	—	—	MHz
Input Resistance	R_{IN}		—	1.5	—	KΩ
Input Capacitance	C_{IN}		—	3.3	—	pF

TYPICAL APPLICATION CIRCUIT

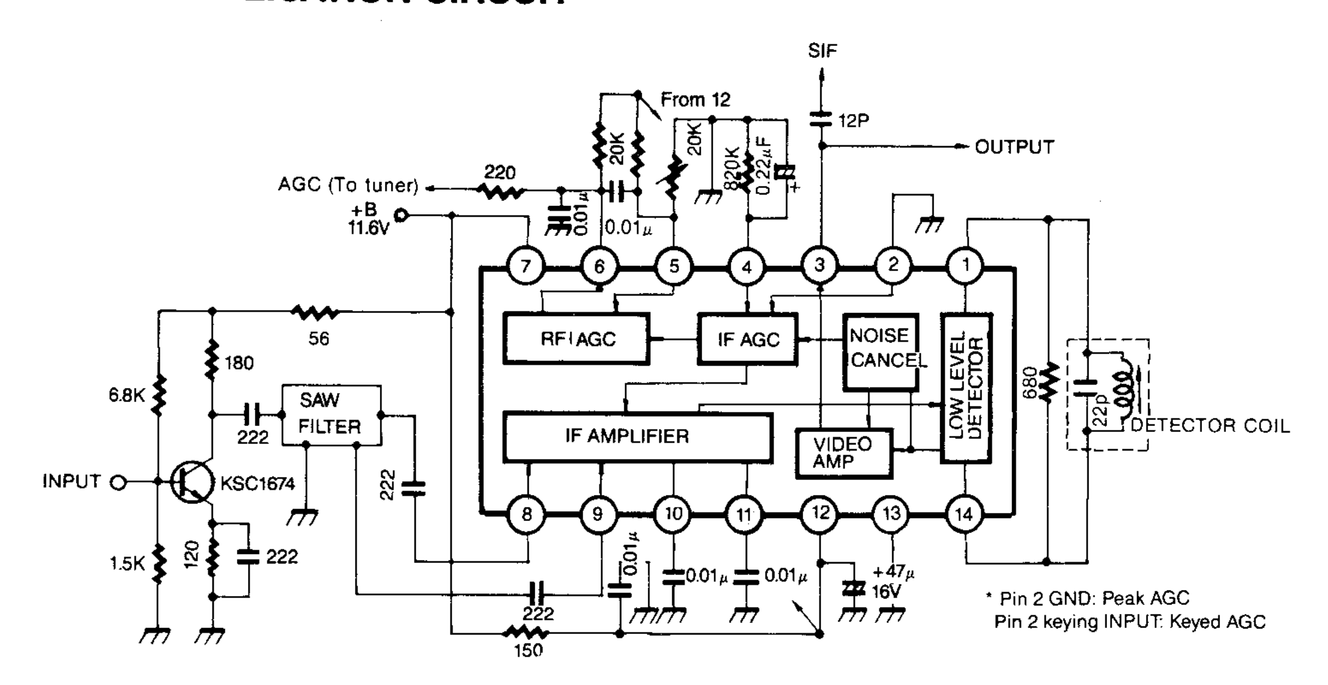


Fig. 2

TEST CIRCUIT

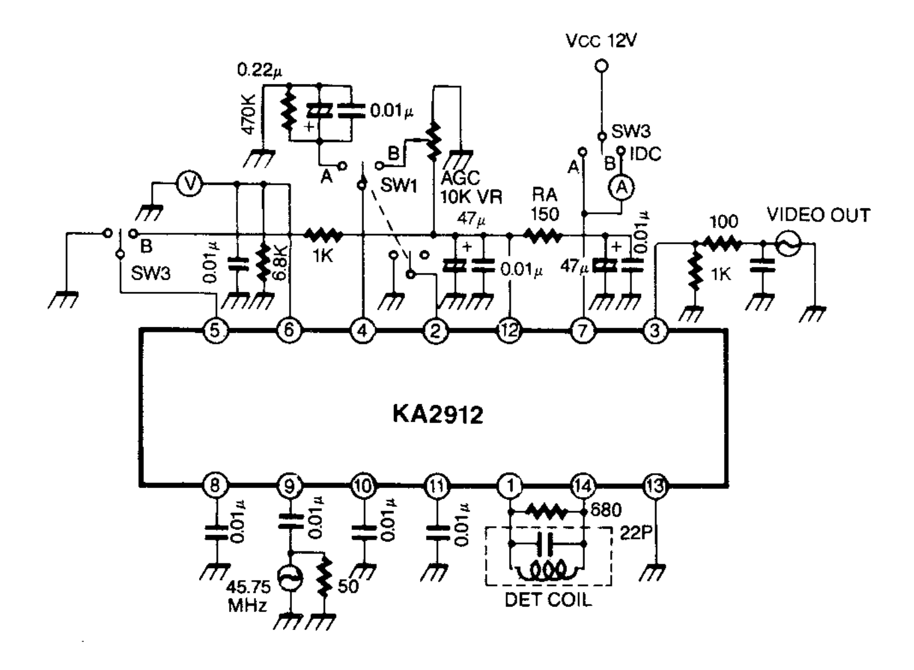
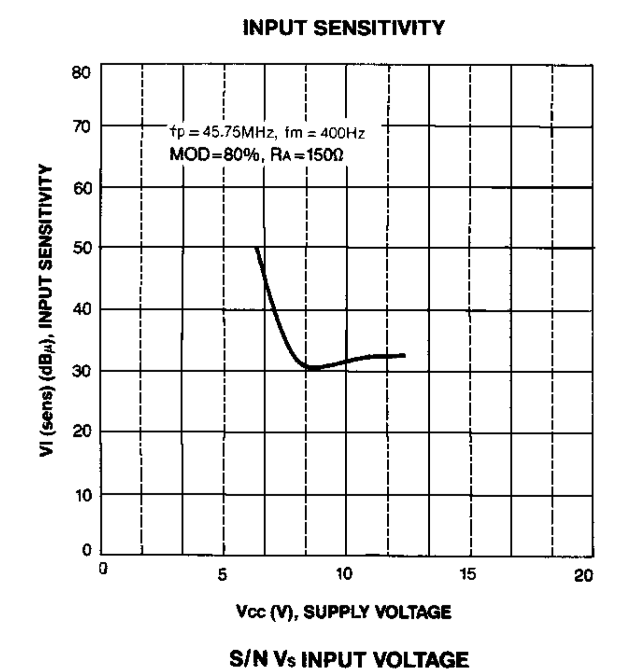
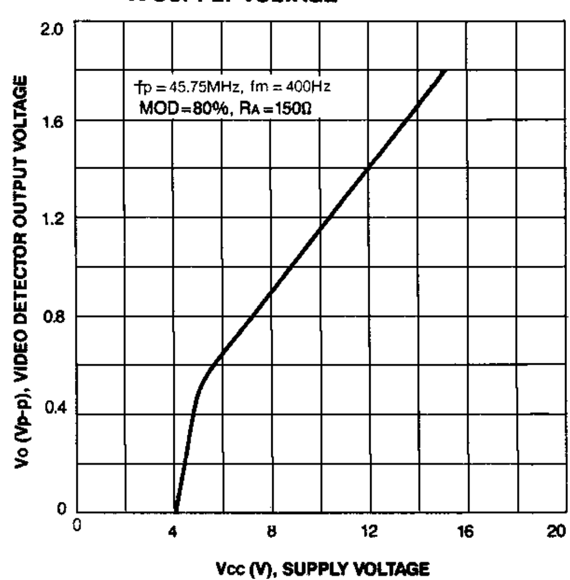


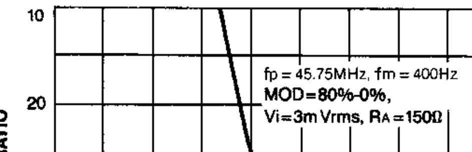
Fig. 3

INPUT SENSITIVITY

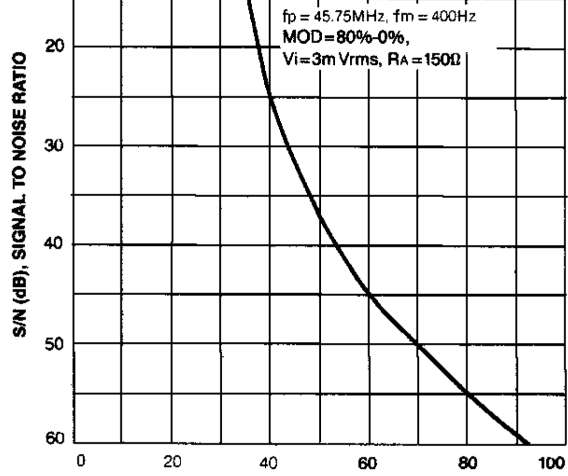


VIDEO DETECTOR OUTPUT VOLTAGE Vs SUPPLY VOLTAGE





S/N Vs INPUT VOLTAGE



VIDEO DETECTOR OUTPUT VOLTAGE ATTENUATION Vs FREQUENCY

